

Claims

What is claimed:

1. A method of receiving a communication signal comprising:
selecting one or more from a set of possible signal types to receive;
adjusting one or more parameters of an automatic gain control unit to correspond to the selected one or more signal types; and
providing one or more gain correction factors from the automatic gain control unit to one or more variable gain amplifier units.
2. The method according to claim 1, wherein adjusting an automatic gain control unit comprises adjusting weighting factors associated with a feed-forward and/or feed-back loop.
3. The method according to claim 2, wherein adjusting an automatic gain control unit further comprises adjusting a signal sampling and/or gain factor update rate of the automatic gain control unit.
4. The method according to claim 1, comprising determining an initial gain correction factor by reading an initial sequence of information associated with the received signal.
5. The method according to claim 3, further comprising reducing the sampling rate and/or gain factor update rate of the automatic gain control unit once an initial period of detection is completed.
6. The method according to claim 1, further comprising adapting the frequency response of one or more elements in the received signal path.

7. The method according to claim 6, wherein adapting the frequency response of one or more elements in the received signal path is performed either in concert or shortly after providing one or more gain correction factors.
8. The method according to claim 1, wherein a first set of gain correction factors applied to the one or more variable gain amplifier is derived from an initial received signal and primarily based on dynamics of a feed-forward loop, while a second set of gain correction factors are based on a combination of the dynamics of a feed-back and feed-forward loops or solely based on the dynamics of the feed-back loop.
9. The method according to claim 1, wherein the one or more of the gain correction factors from the automatic gain control unit may be provided to a variable gain amplifier unit positioned at different frequency stages in the receive signal path.
10. The method according to claim 1, wherein the one or more of the gain correction factors from the automatic gain control unit may be provided to a one or more variable gain amplifier units, and wherein each of the one or more variable gain amplifier units is adapted to amplify a different channel of a complex communication signal.
11. The method according to claim 10, wherein one or more of the gain correction factors from the automatic gain control unit are determined so as to correct for an amplitude imbalance between two more channels of a complex communication signal.

12. The method according to claim 1, further comprising interface matching for a GPS modem.
13. A circuit for receiving a communication signal comprising:
an automatic gain control unit including one or more adjustable operational parameters, wherein said one or more operational parameters may be adjusted corresponding to a signal type selected from a set of one or more signal types.
14. The circuit according to claim 13, wherein each of the one or operational parameter may be selected from the group consisting of feedback loop weighting factor, feed-forward loop weighting factor, sampling rates associate with the feedback and feed-forward loop, gain value update rate of a first variable gain amplifier, gain value update rate of a first variable gain amplifier for a second variable gain amplifier, and target signal output power values.
15. The circuit according to claim 14, further comprising one or more variable gain control units, and wherein said automatic gain control unit is adapted to provide said one or more variable gain control units one or more gain correction factors.
16. The circuit according to claim 14, where said automatic gain control unit is adapted to determine an initial gain correction factor by reading an initial sequence of information associated with a received signal.

17. The circuit according to claim 16, wherein said automatic gain control unit is adapted to reduce a sampling rate and/or gain factor update rate once an initial period of detection is completed.
18. The circuit according to claim 14, wherein said automatic gain control unit adapts a frequency response of one or more elements in the received signal path.
19. The circuit according to claim 18, wherein said automatic gain control unit adapts a frequency response of one or more elements in the received signal path either in concert or shortly after providing one or more gain factors.
20. The circuit according to claim 19, wherein one or more of the gain factors from the automatic gain control unit are determined so as to correct for an amplitude imbalance between two or more channels of a complex communication signal.